Amendments to and Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (previously presented) A system for recharging and communicating with a body implanted stimulator having a rechargeable battery comprising:

a base station;

an antenna/charging coil that is used to inductively charge the rechargeable battery within the implanted stimulator and to transcutaneously communicate with the stimulator,

wherein the antenna/charging coil is coupled to the base station;

means for driving the antenna/charging coil with a charging signal when used as a charging coil; and

means for driving the antenna/charging coil with a communication signal when used as a communication coil.

Claim 2 (original) The system of claim 1, further comprising:

circuitry for accomplishing forward and backward frequency shift keying (FSK) telemetry with the implanted stimulator,

wherein the antenna/charging coil is configured and dimensioned to enable FSK telemetry.

Claim 3 (original) The system of claim 2, further comprising:

circuitry for accomplishing forward on-off keying (OOK) telemetry with the implanted stimulator using the antenna/charging coil.

Claim 4 (original) The system of claim 1, further comprising:

a current measuring circuitry for determining power consumption in the antenna/charging coil.

Claim 5 (previously presented) The system of claim 1, further comprising:

a printed circuit board (PCB) coupled to the antenna/charging coil; and

a sensing circuitry for sensing temperature included on the PCB.

Claim 6 (original) The system of claim 5, further comprising:

an automatic power shut-off circuitry for automatically shutting off power to the antenna/charging coil when the sensed temperature through the antenna/charging coil exceeds a predetermined level.

Claim 7 (previously presented) The system of claim 1, further comprising:

a booster coil used for zero-volt battery recovery (ZVR), wherein the booster coil is coupled to the antenna/charging coil.

Claim 8 (original) The system of claim 7, wherein the booster coil has about 6 turns of multi-stranded Litz wire in 2 layers of 3 turns each, wrapped around a coil spool.

Claim 9 (original) The system of claim 7, further comprising:

a power sensing circuitry for determining power consumption in the booster coil; and

an automatic power shut-off circuitry for automatically shutting off power to the booster coil when the power consumption through the booster coil exceeds a predetermined power level.

Claim 10 (previously presented) The system of claim 7, further comprising:

a chair pad;

a printed circuit board (PCB) contained in the chair pad;

a sensing circuitry for sensing temperature included on the PCB; and

an automatic power shut-off circuitry for automatically shutting off power to the booster coil when the sensed temperature through the booster coil exceeds a predetermined power level.

Claim 11 (original) The system of claim 1, wherein the antenna/charging coil has about 24 turns of multi-stranded Litz wire wrapped around a 200 mm inside diameter coil spool.

Claim 12 (previously presented) The system of claim 10 wherein the chair pad is further comprised of:

a compliant chair pad housing made of polyurethane foam;

a chair pad printed circuit board (PCB); and

a coil assembly housing which contains a booster coil, the antenna/charging coil and the chair pad PCB,

wherein the polyurethane foam housing encapsulates the coil assembly housing.

Claim 13 (original) The system of claim 12, wherein the chair pad is further comprised of:

padding that surrounds the polyurethane foam housing; and

an exterior slipcover that surrounds the padding.

Claim 14 (previously presented) The system of claim 1, further comprising:

a booster coil that is placed in a coil assembly with the antenna/charger coil, wherein the booster coil and antenna coil are wound over a spool coil in a configuration to present at least one substantially flat side; and

a coil shield which is grounded and which shield is placed as part of the coil assembly to substantially cover the antenna/charger coil and the booster coil,

wherein the coil assembly is fully encapsulated in an external housing.

Claim 15 (original) The system of claim 14, wherein the housing is polyurethane foam and has approximate dimensions that are about or smaller than 50 cm by 50 cm by 15 cm thick.

Claim 16 (previously presented) The system of claim 10, further comprising:

a chair pad cable that connects the chair pad to the base station; and

detection circuitry for automatically detecting disconnection of the chair pad cable from the chair pad.

Claim 17 (original) The system of claim 9, wherein the base station includes:

a speaker for generating an audible sound to signal a significant system event.

Claim 18 (original) The system of claim 1, further comprising:

a booster coil for use in zero volt battery recovery (ZVR); and

first and second impedance matching networks,

wherein a first amplifier power supply to the antenna/charging coil is impedance matched with the first impedance matching network; and

wherein a second amplifier power supply to the booster coil is impedance matched with the second impedance matching network.

Claim 19 (original) The system of claim 18, wherein the first impedance matching network is a 50 Ohm matching network and the second impedance matching network is a 50 Ohm matching network.

Claim 20 (original) The system of claim 1, wherein the implantable stimulator is a microstimulator having a maximum length-wise dimension of about 3.5 centimeters and a maximum width of about 5 millimeters.

Claim 21 (original) The system of claim 1, further comprising:

a sensor for detecting power levels in the antenna/charging coil; and

a variable output power supply that automatically adjusts downwards when the power levels detected by the sensor detects power levels that exceed a predetermined levels,

wherein the variable output power supply is contained within the base station.

Claim 22 (original) The system of claim 21, wherein the variable output power supply ranges from between about +7 to + 20 VDC.

Claim 23 (previously presented) The system of claim 10, wherein all voltages and currents inside the chair pad are below about 4.5 Amperes and below about 25 Volts.

Claims 24-43 (canceled)

Claim 44 (previously presented) The system of claim 4, further comprising:

an automatic power shut-off circuitry for automatically shutting off power to the antenna/charging coil when the power consumption through the antenna/charging coil exceeds a predetermined level.